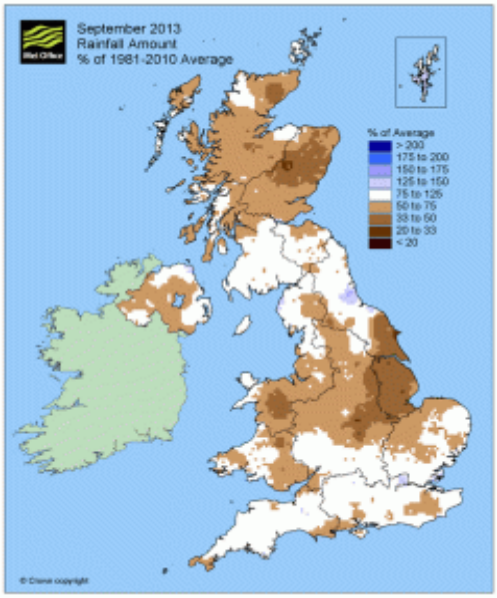
Stats reveal so-so September

Description

Provisional Met Office statistics show September has been fairly average for the UK, with lower than average rainfall being the only notable feature.

The UK mean temperature for the month was 12.8C, which is just 0.1C above the long-term (1981-2010) average. It's the same story with maximum and minimum temperatures, which at 16.6C and 8.9C respectively, are both 0.1C above the long-term average.



September UK rainfall as a % of 1981-2010 average

There were 115.8 hours of sunshine in the UK during the month which adds up to 93% of the long term average – again, fairly normal. However, there were some big regional differences. Sunshine amounts were below normal in the west and south, but near or above normal in the north and east. For south Wales and south-west England this was provisionally the dullest September since 1994.

When it comes to rainfall, it has been a drier than average month for the UK. There was 70.7mm of rain during September, which is 73% of the long-term average. Parts of Wales, eastern England and Scotland had less than half the normal amount. For Scotland overall this was provisionally the driest September since 2003.

The drier than average September continues a theme for 2013 as a whole, with every month this year apart from May registering below average rainfall.

You can explore Met Office statistics on our UK Climate pages.

Mean Temperature **Sunshine hours** **Rainfall**

September	Actual	Diff to Avg	Actual	% of Avg	Actual	% of Avg
	degC	degC	hours	%	mm	%
UK	12.8	0.1	115.8	93	70.7	73
England	13.7	0.0	126.1	92	54.5	78
Wales	13.1	0.3	104.0	81	79.6	68
Scotland	11.2	0.3	104.9	100	95.1	70
N Ireland	12.7	0.3	98.1	86	69.3	76

Date Created
October 2013

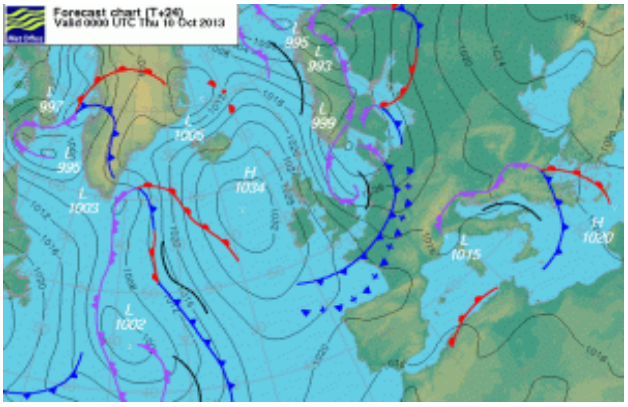
Strong winds, big waves and a storm surge

Description

A relatively deep area of low pressure is tracking past the north of Scotland today and is then expected to head south into the North Sea tomorrow.

This will bring some strong winds to northern Scotland tonight, then to the east coast of England tomorrow – particularly through the afternoon.

These northerly winds are expected to gust up to 50-60mph, which is unlikely to cause any wind damage but could generate some big waves in the North Sea.



Forecast surface pressure chart for Midnight tonight.

The Met Office has issued a warning this possibility as the big waves could combine with a storm surge to overtop sea walls and potentially flood some coastal roads.

A spokeswoman for the Environment Agency said: “Strong winds and large waves could cause minor disruption along the North Sea coast on Thursday from Yorkshire to Essex. Spray and waves may overtop sea walls and people are urged to stay safe and avoid coastal paths and promenades. The high winds and localised flooding on roads could make driving conditions difficult in coastal areas.”

But what is a storm surge?

Essentially this is a very localised rising of sea level – independent of tides – related to the track of an area of low pressure (storm) and its accompanying winds.

The storm causes this surge of water in two ways. Firstly, strong winds push water in their direction of travel, causing water to ‘pile up’ on coasts facing into the wind.

The second element of a storm surge relates to differences in air pressure. Areas of low pressure are always relative, meaning the air surrounding them must be at a higher pressure.

These areas of high pressure push down on the surface of the ocean, forcing water towards areas of lower pressure to create bulges in the sea level. For each 1 hPa drop in pressure, sea levels rise by up to 1 cm.

Bulges move with a low pressure as it tracks across the sea. North Sea areas are particularly prone to storm surges because water flowing south cannot escape through the narrow Dover Strait and the English Channel.

When storm surges combine with higher tides and big waves they can cause localised issues along coasts.

Date Created
October 2013

Lowest temperatures 10 October

Description

Last night saw the first widespread cold night of the season. Here are the lowest temperatures from around the UK:

ENGLAND

SITE NAME	AREA	MIN TEMPERATURE (°C)
Bridgefoot	CUMBRIA	1.5
Leek, Thorncliffe	STAFFORDSHIRE	2.2
Spadeadam	CUMBRIA	2.2
Warcop Range	CUMBRIA	2.5
Keswick	CUMBRIA	3.0

SCOTLAND

SITE NAME	AREA	MIN TEMPERATURE (°C)
Saughall	AYRSHIRE	-0.7
Drumalbin	LANARKSHIRE	1.4
Salsburgh	LANARKSHIRE	2.4
Balmoral	ABERDEENSHIRE	3.1
Carterhouse	ROXBURGHSHIRE	3.1

WALES

SITE NAME	AREA	MIN TEMPERATURE (°C)
Libanus	POWYS	1.6
Sennybridge	POWYS	1.6
Tredegar Bryn Bach Park	GWENT	3.9
Llysdinam	POWYS	4.1
Trawsgoed	DYFED	4.2

NORTHERN IRELAND

SITE NAME	AREA	MIN TEMPERATURE (°C)
Killylane	ANTRIM	4.0
Thomastown	FERMANAGH	4.2
Derrylin Cornahoule	FERMANAGH	4.3

Castlederg	TYRONE	4.6
Aldergrove	ANTRIM	4.9

Date Created
October 2013

Cyclones set to strike India and the Philippines

Description

While the tropical storm and cyclone season for the northern hemisphere has been relatively quiet this year, the last few weeks has seen a spike in activity with three tropical cyclones currently active.

The north Indian Ocean sees tropical storms develop during two periods of the year – April to June and October to December.

Cyclone Phailin at 0455 UTC 11 October 2013. Image from the NASA Terra satellite.

Cyclone Phailin formed in the Bay of Bengal earlier this week and has become the most intense cyclone in this region since Cyclone Sidr in 2007. At the time of writing it has 1-minute average sustained winds of near 155 mph.

Phailin, which is a Thai word for ‘sapphire’, is expected to make landfall over the Odisha state of India on Saturday night and bring destruction from its strong winds, heavy rain and storm surge.

It is likely to be the strongest cyclone to hit India since the devastating ‘Odisha Cyclone’ of 1999, and it is possible it could be even stronger.

Meanwhile Typhoon Nari is continuing a busy spell for tropical storms in the last few weeks in the west Pacific Ocean.

With winds near 100 mph, Nari is making landfall over the northern Philippines today before moving

into the South China Sea where it could continue towards a second landfall in China or Vietnam.

Behind Nari, another storm is developing called Wipha. This is set to strengthen into a typhoon and move northwards in the direction of Japan.

Landfall over Japan is possible, but at this stage a glancing blow to southern coastal regions of the country in the middle of next week is the most likely outcome.

Official warnings of west Pacific tropical storms are produced by the Japanese Meteological Agency (JMA). Official forecasts of Indian Ocean tropical storms are provided by the Indian Meteorological Department.

For more information on tropical cyclones worldwide, visit our web pages or follow @metofficestorms on Twitter.

Date Created
October 2013

September weather summary

Description

September opened with some fine, warm, sunny weather. After a brief stormy period mid-month, the second half was quieter and more typical of autumn.

The provisional UK mean temperature was 12.8 °C, which is 0.1 °C above the 1981-2010 average. The UK overall received 73% of the average rainfall amount for this month and there was provisionally 93% of the long-term average hours of sunshine. Visit our climate section for a full written summary of the month.

Your pictures

Thank you for sharing your pictures of September weather on Twitter. Here are some of our favourites…

> @metoffice #septemberphoto taken last week ? pic.twitter.com/c0aGTuQ36c
>
> — Anna (@TinyLittleFreak) October 7, 2013

> @metoffice September sunset in Wiltshire pic.twitter.com/tkR8n7havb
>
> — DeaDomesticus (@alocin709) October 7, 2013

> @metoffice Sunset at Pewley Down, Surrey pic.twitter.com/AjbW9fwC54
>
> — Simon Mair (@simon_mair) October 7, 2013

> @metoffice Sept 9th Sword Beach Normandy does this count?? pic.twitter.com/7Bllt5USuD
>
> — jonsomers1 (@Jonsomers1) October 7, 2013

> @metoffice pic.twitter.com/pwNns6oxUG
>
> — Nicholas Simms (@nick_simms) October 7, 2013

> @metoffice A rainbow at a red sunrise over Buckley N Wales pic.twitter.com/0FXKoFmxq0
>
> — Jeff Roden (@JeffRoden1957) October 7, 2013

Date Created
October 2013

Winter Forecasting – Responding to the headlines

Description

Once again it is the season for speculation and big headlines regarding what the weather will do over the winter period. The front page of the Daily Express today claims: ‘Worst winter for decades: Record-breaking snow predicted for November’.

We saw similar headlines last year and instead winter 12/13 ended up being only the 43rd coldest on record with an average temperature of 3.3C and flooding until the turn of the year.

What the Daily Express has failed to explain to its readers is that there is absolutely no certainty about what weather the UK will see over the winter period. The science simply does not exist to make detailed, long-term forecasts for temperature and snowfall even for the end of November, let alone for the winter period, which does not officially start until 1 December.

While we have seen a return to more normal, cooler temperatures for this time of year, this is no indication of what we can expect over the next four months with regards to temperatures and when we might see snow. It is far too early to tell.

Ultimately, we’re heading into winter and it is perfectly possible that we will see the whole range of weather that we get in winter at some point over the coming months, including snow and freezing temperatures, but also heavy rain, windy weather and mild conditions too.

Our five day forecasts and warnings will provide you with the best possible guidance on any periods of cold weather, frost or the likelihood of snow, giving detailed local information across the UK to help you make the most of the weather over the coming months.

Date Created
October 2013

Cyclone Phailin and more Pacific Typhoons

Description

As per forecasts discussed in our blog last week, Cyclone Phailin struck the east coast of India over the weekend with winds estimated at near 130 mph.

It brought a strong storm surge along the coast and more than 230 mm (9 inches) of rain was recorded as the cyclone passed.

The cyclone was of a similar strength to one which struck just a little further up the coast in 1999, which claimed more than 10,000 lives.

Excellent forecasts for Phailin, combined with well executed warning and evacuation procedures, meant the loss of life was much less this time around.

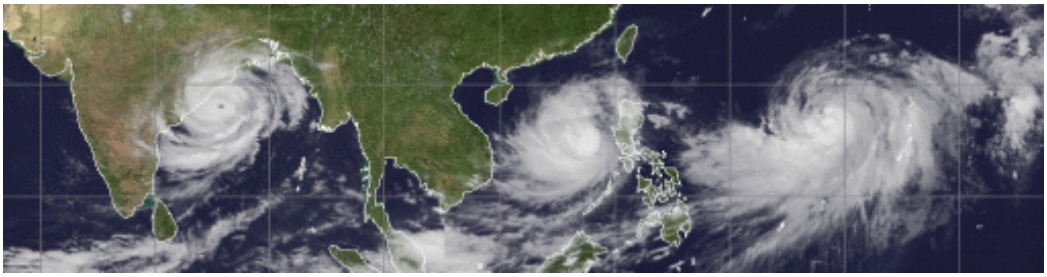
Phailin became a tropical storm a little more than three days before landfall, but computer models were able to give far greater warning than this.

Medium range prediction models suggested a higher risk of cyclone formation in the Bay of Bengal a full nine days before Cyclone Phailin struck.

At six days ahead, shorter range models were predicting that the north-eastern coast of India could be under threat, although the timing was not certain at that stage.

Four days ahead, computer models were able to pinpoint the location and timing of landfall to a high degree of accuracy – all before the storm was strong enough to be named.

Cyclone Phailin originated from a disturbance in the far west Pacific basin and was one of a series of tropical storms seen in this region recently.



Stitched image for 0600-0700 HRS (GMT) on Saturday, 12 October 2013. Phailin is on the left, Nari in the centre, and Wipha on the right. Images from CIMSS http://tropic.ssec.wisc.edu/

Nine storms have developed in the west Pacific in the last month, including Typhoons Usagi and Fitow which struck China, Typhoon Wutip which struck Vietnam, and Typhoon Danas which caused heavy rain in South Korea and Japan.

More recently Typhoon Nari crossed the Philippines on Friday and is about to strike Vietnam. Typhoon Wipha may cause disruption in southern Japan and it seems likely another typhoon will develop later this week.

Despite this recent activity, in 2013 the northern hemisphere as a whole has still only had about 60% of the expected activity for this point in the season and regions such at the Atlantic have only seen about 30% of normal activity.

Northern hemisphere activity tends to diminish through November as the southern hemisphere season begins.

Official forecasts of Indian Ocean tropical storms are provided by the Indian Meteorological Department . Official warnings of west Pacific tropical storms are produced by the Japanese Meteological Agency (JMA).

From Tuesday 15th October a graphical display of Met Office forecast tracks of active tropical storms will be available from our web pages. We also provide updates on current tropical storms via @metofficestorms on Twitter.

Date Created
October 2013

UK’s unsettled weather and the jet stream

Description

The UK is set to see unsettled weather throughout this week as heavy rain and windy conditions are expected to affect many areas, whilst temperatures will remain mild for the time of year.

We talk about the jet stream quite a bit in the UK because it has such a big influence on our weather, and this week is no exception as it’s playing a leading role in determining the unsettled outlook.

What is the jet stream?

The jet stream is a band of fast moving westerly winds high up in the atmosphere which circle around the pole in the northern hemisphere. It can feature winds of up to 200 knots (230 mph) or more, and these winds tend to guide wet and windy weather systems which come in off the Atlantic.

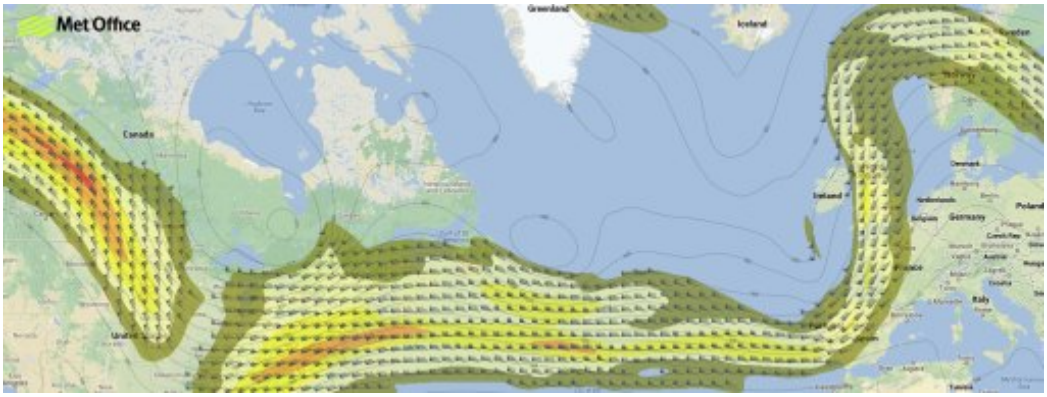
The jet moves around a fair bit and its position can have a big impact on weather here in the UK depending on where it is.

If the Jet is over the UK or just to the south, we tend to get a lot of wet and windy conditions as it brings weather systems straight to us. If the jet is to the north of us, it guides that changeable weather away to the north to leave the UK with more settled conditions.

What’s the jet stream doing now?

Unsurprisingly given the outlook for this week, the jet is positioned more or less directly over the UK – but it’s the detail of its track which is important.

As you can see from the picture below, the jet currently swoops south from western Canada – moving over the Atlantic before taking a sharp turn north to head over the UK.



Forecast chart showing expected position of the jet stream at 1pm on Tuesday 22 October

This means relatively cool air is being dragged south then over the Atlantic, where warmer seas heat

the air from below. This causes the air to warm and rise – creating instability and generating cloud and rain.

By the time weather systems reach they UK they have picked up a lot of rain and relatively warm air, bringing us the wet but mild conditions we are currently seeing.

What's the weather outlook?

Currently unsettled weather looks set to impact the UK through the week, with heavy rain affecting many areas at times.

There may be more settled conditions on Thursday, and perhaps again on Saturday, but looking further ahead into the start of next week the outlook is for unsettled weather to continue.

You can stay up to date with what to expect with our detailed forecasts out to 5-days and our weather warnings, as well as a general view of what we expect out to 30 days.

You can find out more about the jet stream in our YouTube video.

Date Created
October 2013

The severe storm this weekend and why it’s not a hurricane

Description

There is much coverage of the storm heading our way later this weekend with mentions of it being a ‘hurricane’. This is not strictly correct as we don’t get hurricanes in the UK and this is why.

Hurricanes are warm latitude storms; they draw their energy from warm seas and can only begin to form where the ocean is warmer than 26 degrees Celsius or so, and can really only become a major storm when the sea is warmer than 28 degrees Celsius. That’s like a warm bath, so you won’t find one around the UK anytime soon!

Other limitations, like wind patterns in the upper atmosphere and the forces caused by the Earth’s rotation, mean hurricanes are normally found in an area between 8 and 20 degrees north of the equator.

You can find a full explanation of what hurricanes are and how they form on our What are hurricanes? video

The storm which is due to develop tomorrow night and affect the UK during Monday is a mid latitude storm, the sort which affect us through the autumn and winter. These are formed in a very different way – by the meeting of different air masses on what is known as the polar front, leading to low pressure (storms) forming, often around the latitude of the UK.

The storm which is due tomorrow is expected to bring very strong winds and heavy rain, and we are warning of winds gusting 60-80 mph quite widely and locally over 80 mph, especially on exposed coasts, both in the southwesterly winds ahead of the low centre and west to northwesterly winds behind it.

Winds of that strength are classified on the Beaufort scale as ‘hurricane force 12’ but that is not the same as being a hurricane. Winds of this strength could bring down trees or cause structural damage, potentially causing transport disruption or power cuts and we are working closely with the resilience community to ensure they are prepared for the expected conditions.

You can find practical advice about what to do in winter weather on our Get Ready for Winter website.

Date Created
October 2013

Major Atlantic storm – wind speeds and rainfall totals

Description

The Atlantic storm which has caused disruption across parts of England and Wales this morning has now moved off into the North Sea.

We expect the most powerful winds and heavy rain associated with the storm to clear eastern areas in the next few hours, after which most parts of the UK will see a bright and breezy day with occasionally heavy, blustery showers.

The storm developed as expected just off to the south west of the UK last night, before tracking up into the Bristol Channel in the early hours of the morning.

It then tracked across the Midlands, moving off into the North Sea just to the north of East Anglia later in the morning. As the storm moved across, it brought exceptionally strong winds and heavy rain with it – causing widespread impacts.

Now the storm has cleared through, we are expecting typically unsettled autumn weather over the next couple of days – with some bright spells, mixed in with showers or longer periods of rain and breezy conditions.

This video shows the storm as it crossed the UK:

Below are some of the strongest recorded winds and heaviest total rainfall amounts:

Maximum gusts during the storm:

STATION NAME	AREA	MAX GUST (MPH)
WIGHT: NEEDLES	ISLE OF WIGHT	99
LANGDON BAY	KENT	82
ISLE OF PORTLAND	DORSET	81
ANDREWSFIELD	ESSEX	79
ODIHAM	HAMPSHIRE	78
THORNEY ISLAND	WEST SUSSEX	76
SOLENT	HAMPSHIRE	75
WIGHT: ST CATHERINES POINT	ISLE OF WIGHT	75
YEOVILTON	SOMERSET	75
LYNEHAM	WILTSHIRE	75
HURN	DORSET	74
MANSTON	KENT	70

HEATHROW GREATER LONDON 69

Highest rainfall totals from 6pm on 27 October 2013 to 8am on 28 October 2013:

STATION NAME	AREA	RAINFALL TOTAL (MM)
OTTERBOURNE W WKS	HAMPSHIRE	50
WYCH CROSS	EAST SUSSEX	45.4
CARDIFF, BUTE PARK	SOUTH GLAMORGAN	44.8
HURN	DORSET	42
WIGGONHOLT	WEST SUSSEX	37.2
ST ATHAN	SOUTH GLAMORGAN	37
ODIHAM	HAMPSHIRE	35
WELLESBOURNE	WARWICKSHIRE	34.8
ALICE HOLT LODGE	HAMPSHIRE	34.4
LISCOMBE	SOMERSET	34.4

Date Created
October 2013

Unsettled weather to come – but no repeat of ‘St Jude’ in sight

Description

There have been a few mentions in today’s media of another storm coming in for this weekend – with the Daily Express suggesting that a ‘new deadly storm’ is on the way.

It’s fair to say we are expecting a spell of unsettled autumnal weather over the next week, with some strong winds and heavy rain possible – but comparisons with the ‘St Jude’s Day storm’ (as some in the media have called it) are wide of the mark.

Currently forecasts suggest that we will see several low pressure systems affecting the country over the next week – which is a fairly typical picture for UK weather at this time of year.

These could bring gale force winds at times to some areas, but we don’t expect gusts to be anything like the exceptionally strong winds we saw on Monday. In fact, the winds are more likely to be similar to those we saw during the day last Sunday – the day before the big storm.

Of course, even gale force gusts do bring some risks and the Met Office will closely watch developments to assess any impacts.

The low pressure systems coming through over the next week are likely to lead to some rough seas and big waves around some coasts, as well as some heavy rain.

The Met Office, Environment Agency and Scottish Environment Protection Agency (SEPA) will be working together to monitor the risk of any impacts from these over the next few days.

Given the outlook for unsettled weather, we’d advise people to stay up to date with the latest forecasts and warnings from the Met Office and to sign up to receive free flood warnings from the Environment Agency and SEPA website.

Date Created
October 2013

How powerful was Monday’s storm?

Description

The storm that swept across southern parts of the UK caused widespread disruption and included a gust of almost 100mph, but how does it compare to previous storms?

It’s not just the numbers

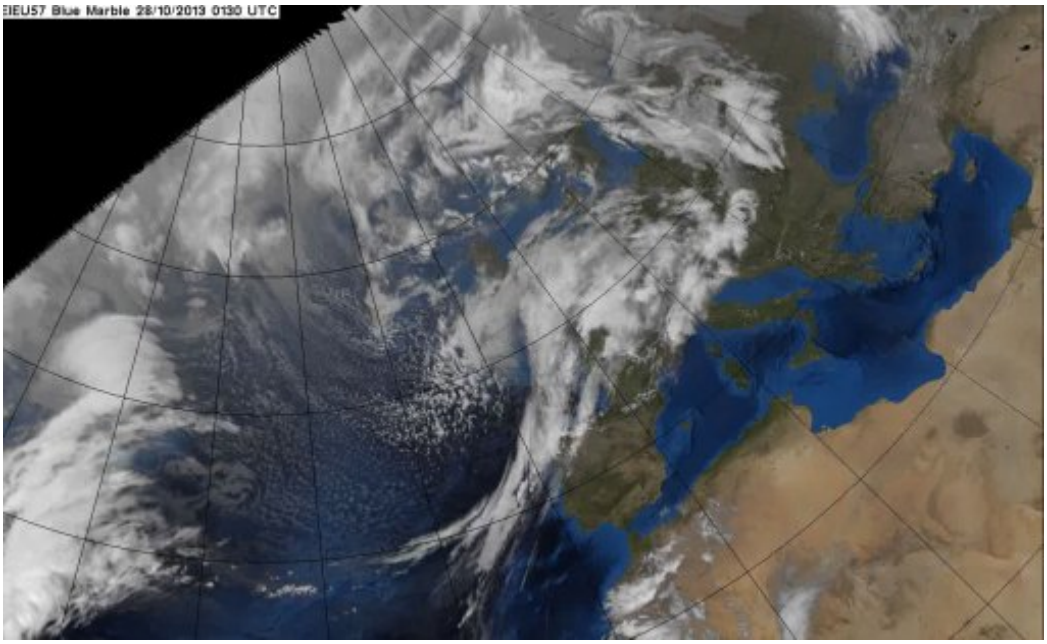
In terms of the severity of the winds, you don’t have to go far back to find a more powerful storm than this – in January 2012 we saw winds of over 100mph in Edinburgh for example.

There are two things that made this storm so significant. Firstly, the timing – arriving in October when the trees are in full leaf and therefore much more vulnerable to strong winds.

Secondly the track of this storm was key. Along the northern and western coasts of Scotland and northern Ireland winds of 70-80mph are not that exceptional because they are on the more usual track of Atlantic storms.

However, powerful Atlantic storms are seen much more rarely across southern parts of England and Wales – which means these areas are much more susceptible to strong winds.

All this combined meant that the storm had a significant impact – with fallen trees causing the majority of disruption.



Satellite image showing the storm tracking across the UK

When did we last see a storm like this?

With that in mind, to find a similar storm we'd have to look at those which affected southern parts of England at a time when leaves are still on the trees (likely to be autumn).

To find a storm of similar strength that fits these criteria you'd have to go back to 27 October 2002. That storm brought winds of similar, or higher speeds, affecting most of England and Wales, and leading to widespread impacts.

Where does Monday's storm rank in the longer term records?

There are many different ways of comparing storms – from looking at the strongest gusts, to mean wind speeds, to the area affected or the severity of impacts.

The Met Office National Climate Information Centre (NCIC) looked at autumn storms in southern England over the past 40 years, analysing the number of weather stations across the region which recorded a gust of 60 knots (69mph) or more for each storm.

From this they put together the ranking below which suggests Monday's storm was within the top 10 most powerful autumn storms in southern England in the past 40 years.

The storm of October 2002 comes top of this ranking – followed by the 'Great Storm' of 16 October 1987.

Mike Kendon, from the NCIC, said: "This is just one technique for analysing storms and doesn't necessarily tell us how severe an impact any particular storm had. On 16 October 1987, the maximum gusts we saw were much more powerful than those seen in 2002, and it was those very powerful winds – of up to 115mph – which caused the majority of the damage.

"What our analysis does tell us is that Monday's storm was certainly one of the most significant autumn storms for at least a decade in terms of its strength and its impacts – even if it's not on a par with some of the most powerful or damaging storms we have seen in the UK's historical records."

DATE OF STORM	STATIONS WITH >69MPH GUST
27/10/2002	36
16/10/1987	28
28/10/1996	24
30/10/2000	21

11/11/1977	18
28/10/1989	18
28/10/2013	16
07/09/1974	14
24/10/1998	14
14/11/1977	13

Date Created
October 2013